MEMO: N. H. Horowitz to J. Lederberg Feb. 6, 1960

Back-contamination and the goals of exobiological research.

Against the slight risk of pandemic disease and the perhaps greater one of economic nuisance, one must weigh the potential benefits to mankind of unhampered traffic with the planets. The present situation may be likened to that which obtained in Europe in the decade before Columbus set forth on his voyage of discovery. If men had known then that Columbus would bring back with him a disease--syphilis--that was to plague Europe for centuries, they might well have prevented him from ever leaving Spain. Suppose, however, that they had known also of the tremendous benefits that were to flow from the discovery of the New World. Can there be any doubt what their decision would have been then?

In view of the small risk involved in the premature return of planetary probes, it would be inadvisable to adopt a position--e.g., an embargo on returning spacecraft--which might prejudice the development of the necessary technology for return flights. Also to be considered is the probably deleterious effect on * public opinion of an excessively cautious policy. Rather, we should recognize the fact that definitive information on the biological composition--and the chemical composition, as well--of the lunar and planetary surfaces will come only from studies in a terrestrial laboratory of soil samples from these bodies. The procurement of such samples should therefore be the primary goal of exobiological research. It should be understood that the biological exploration of the planets by instrumented robot payloads is not a substitute for this primary objective, but is only a step toward it. This and all other aspects of the exobiological research program should be subordinate to the attainment of the primary goal.

* By this I mean that the public may be frightened out of any interest in space explorations.